

REMARKS

Overview

This amendment accompanies a request for continued examination. Claims 1-8, 21-27 and 29-35 are pending in the present application. Claims 1-8 have been withdrawn and claims 21-27 and 29-35 are rejected. Claims 21 and 29 have been amended, claim 27 has been cancelled and claims 36-37 are new. The Office Action and cited references have been carefully reviewed.

Claim Rejections

Both of independent claims 21 and 29, and their depending claims, have been rejected as being obvious over the Delot patent, as modified by allegedly well-known physical principles. Applicant respectfully traverses these rejections, and requests reconsideration of the claims.

Independent claim 21 has been amended by incorporating the limitations from cancelled dependent claim 27. Thus, claim 21 requires an outlet in the upper portion of the camera above the melt level of the camera to release pressure from the camera and an inlet in the tank above the melt level of the tank to increase pressure in the tank. Claim 21 further provides that the tank pressure is maintained greater than the camera pressure to move melt from the tank to the camera through a vertical passage. These limitations are not met by Delot.

There is no disclosure in Delot of an outlet in the camera for decreasing pressure and an inlet in the tank for increasing pressure, in accordance with amended claim 21.

Furthermore, the Examiner admits that Delot does not teach a pressure differential for moving the molten metal upwardly from the lower tank to the upper camera as required by claim 21. The Examiner asserts on pages 3 and 6 of the Final Office Action that it would be obvious to

modify Delot, by substituting a pressure differential for the Delot pump, and thereby get the same, predictable, successful result. However, this conclusion begs the question: Why make the substitution if the result is the same?

The Supreme Court *KSR* decision discussed obvious combinations of prior art wherein one device is modified in view of another device so as to achieve an improvement. *KSR*, 127 S.Ct. 1727, 1740 (2007). Logically and conversely, if there is no improvement achieved by the modification, then the modification is not obvious. As the Supreme Court further explained, there has to be a reason to combine the known elements in the fashion claimed by the patentee. *KSR*, 127 S.Ct. at 1742. Obviousness rejections must be supported by some rational underpinning. *Id.*

As the Supreme Court acknowledged in *KSR*, merely demonstrating that each element of a combination is known in the prior art does not constitute obviousness. *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1741 (2007). Furthermore, as the Court of Appeals for the Federal Circuit has long recognized, the mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. *In re Fritch*, 23 U.S.P.Q.2d 1780, 1783-84 (Fed. Cir. 1992). As further explained by an earlier decision of the Federal Circuit,

It is wrong to use the patent-in-suit as a guide through the maize of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." *Orthopedic Equipment Co. v. U.S.*, 217 U.S.P.Q. 193, 199 (Fed. Cir. 1983).

Here, the Examiner has provided no reasoning or rational underpinning for modifying the Delot device by substituting a pressure differential for a pump. The mere fact that the substitution could be successfully made is insufficient to support an

obviousness rejection. Here, there is no evidence of any benefit provided by the substitution. Absent some advantage, a person skilled in the art would not make the substitution. Therefore, the combination is not obvious.

The Examiner notes that Delot recognizes other means for transporting the molten metal, as described as col. 6, lines 94-97. However, this statement by Delot is non-enabling. Enablement is a prerequisite for a 102 or 103 rejection. See *Rockwell International Corp. v. U.S.*, 147 F.3d 1358, 1365 (Fed. Cir. 1998); *Reading & Bates Construction Co. v. Baker Energy Resources*, 223 USPQ 1168, 1173 (Fed. Cir. 1984); *Application of Payne*, 606 F.2d 303, 314 (CCPA 1979). Thus, this sentence in Delot provides no basis for the obviousness rejection.

In the Advisory Action, the Examiner asserts that a pressure differential is a functional equivalent to a pump. However, functional equivalency is not a proper basis for an obviousness rejection. Functional equivalency does not appear in the statute, 35 U.S.C. § 103. Applicant is not aware of any Supreme Court decision or decision by the Court of Appeals for the Federal Circuit regarding functional equivalency and obviousness. The Examiner does not define functional equivalency. If functional equivalency merely means getting the same end result, does any means to the same end constitute functionally equivalent? If so, this is an over simplification which leads to absurd and illogical results. For example, a person can travel from New York to California by various means, including automobile, airplane, bicycle, or on foot, with the same end result of being transported across the country. However, no one would assert that these different modes of transportation are functionally equivalent simply because they all get the same end result.

Here, pressure differentials are not the function equivalent of pumps for moving a coating melt from a tank to a camera coated product passing through the camera. In particular, in paragraphs 13-15 of the Background, Applicant cites French Patent No. 7,516,981, which is the priority application for the cited Delot patent. As Applicant describes the '981 patent, a pump is used for transporting the melt from the tank to the camera, with associated disadvantages of such a pump being significant decreases in the safety characteristics imposed to the equipment, and the fast wearing of the passages, with the resulting contamination of the melt and deterioration of the coating quality. In comparison, as described in paragraph 18 of this application, the pressure differential system of the present invention simplifies the structure and process, and with improved coating quality. Applicant's pressure differential for moving melt from the tank to the camera overcomes the problems of the Delot pump. These improvements of Applicant's invention over the Delot system is strong evidence that use of a pressure differential versus use of a pump are not functionally equivalent.

Thus, the Examiner's unsupported assertion of functional equivalency between the Delot pump and Applicant's pressure differential is erroneous and cannot support an obviousness rejection.

Accordingly, the § 103 rejection of claim 21 is fatally defective and must be withdrawn.

New dependent claim 36 provides for a melt level detector extending into the camera to sense the melt level in the camera. The melt detector is described in the published application at paragraphs [0049] and [0061], and thus does not constitute new

material. There is no disclosure in Delot of such a melt level detector. Accordingly, claim 36 further distinguishes over Delot to be allowable.

New dependent claim 37 provides for a compressor operatively connected to the melt level detector to increase air pressure in the tank in response to a signal from the melt level detector. The compressor is described in paragraphs [0061] and [0062] of the published specification and thus claim 37 does not constitute new matter. Delot has no disclosure of such a compressor, such that claim 37 is also allowable.

Independent claim 29 has been amended to require a camera pressure detector to maintain camera pressure less than atmospheric pressure to prevent leakage of melted coating material through the inlet and outlet. This camera pressure detector is described in the published application at paragraphs [0020] and [0065-0066], and thus does not constitute new matter.

Delot has no description of a camera pressure detector, since Delot is not concerned with the pressure in the camera. In Delot, the camera is substantially at atmospheric pressure, as described at page 1, lines 74-78. Delot also isolates the camera from the atmosphere, as described at page 2, lines 28-32. Delot simply has no need to detect the camera pressure. Therefore, claim 29 distinguishes over Delot so as to be allowable.

Furthermore, the Examiner acknowledges that Delot does not teach a pressure differential to prevent leakage of molten metal through the inlet and outlet of the camera, as required by claim 29. On pages 4 and 8 of the Final Office Action, the Examiner concludes it would be obvious to modify the Delot device to provide such a pressure differential so as to further protect against leakage of the coating material through the

Delot sealing nozzles or back to the tank. However, this alleged motivation for modifying Delot is illusory. The function of the sealing nozzles 19, 20 in Delot is to capture excess coating material and redirect it to the tank via the funnels 8. There is no evidence that coating material is lost through the inlet or outlet beyond the outermost sealing nozzles 19, 20. To add a pressure differential to Delot, as suggested by the Examiner, creates an unnecessary redundancy at an increased cost, with no advantage or improved performance. A modification that increases cost with no benefit is the antithesis of obviousness.

The Examiner also asserts that increased pressure in the camera would ensure that the coating material does not flow through the inlet and outlet. However, there is no evidence that Delot has such a problem. In fact, the sealing nozzles 19 and 20 preclude leakage of the material beyond the inlet and outlet by directing coating material back to the tank through the funnels 8. Also, the pipes 10 in Delot return molten metal from the camera to the tank, as described at page 3, lines 45-47. Thus, Delot does not have any problem with coating material flowing out the camera inlet or outlet.

On page 9 of the Final Office Action, the Examiner asserts that the modified Delot device would prevent excess coating material from building up upon the product before being completely immersed in the coating material or after being removed from the immersion. This assertion is nonsensical and irrelevant. First, it is unclear how there can be an excess buildup of material on the product before the product is completely immersed in the coating material. Secondly, increased pressure in the camera has no function or effect with regard to excess build of material on the product after the product

is removed from the immersion. It is not understood how the camera pressure prevents excess coating material buildup on the product, as suggested by the Examiner.

In the Advisory Action, the Examiner asserts a different reason to modify Delot to use a pressure differential in the camera to prevent melt leakage. In particular, the Examiner asserts that such a pressure differential will provide the "beneficial result of ensuring that no coating material escapes when the camera is filled with coating material but prior to a lengthy product entering the camera." The Examiner also asserts in the Advisory Action that the use of the pressure differential "would provide an added security measure to maintain the molten melt in the camera should one of the seals become defective." These alleged benefits are imaginary and not realistic. If the camera is filled with coating material before the product to be coated enters the camera of Delot, the melt will simply drain through the lines or pipes 8 and/or 10 before the melt would escape through the product inlet tube 6 or the product outlet tube 3. Furthermore, the Examiner has not explained how the multiple and redundant seals 19 or the multiple and redundant seals 20 would all fail simultaneously. Even if these seals 19, 20 all fail, the multiple drains 8 and 10 would all have to be plugged simultaneously for melt to flow out the inlet tube 6 or the outlet tube 3. It is unrealistic to assert that such a failure of all the drains and seals would occur in Delot.

Therefore, these asserted reasons for modifying Delot, as stated in the Advisory Action, cannot support an obviousness rejection.

Accordingly, the § 103 rejection of claim 29 is based upon false premises which cannot support the obviousness rejection. Therefore, this rejection must be withdrawn.

Accordingly, independent claims 21 and 29, along with the claims depending therefrom, are in proper form for allowance.

Conclusion

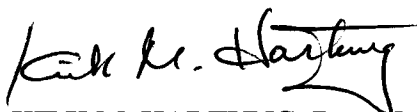
This amendment accompanies the filing of a Request for Continued Examination (RCE). Please charge Deposit Account No. 26-0084 the amount of \$405.00 (small) for the RCE per the attached transmittal.

This is a request to extend the period for filing a response in the above-identified application for one month from November 12, 2009 to December 12, 2009. Applicant is a small entity; therefore, please charge Deposit Account No. 26-0084 in the amount of \$65.00 to cover the cost of the one month extension.

No other fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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